

WE CLAIM:

1. An airlaid composite absorbent web comprising a homogenous mixture of binder and particles of coated superabsorbent.

2. The airlaid composite absorbent web according to Claim 1 wherein the particles of coated superabsorbent material comprise from about 30% to about 97% superabsorbent material and from about 70% to about 3% cellulose fiber or other materials.

3. The airlaid composite absorbent web according to Claim 1 wherein the binder comprises less than about 40 weight percent of the web.

4. The airlaid composite absorbent web according to Claim 1 wherein the binder comprises less than about 20 weight percent of the web.

5. The airlaid composite absorbent web according to Claim 1 wherein the binder comprises less than about 10 weight percent of the web.

6. The airlaid composite absorbent web according to Claim 3 wherein the binder is a thermoplastic fiber.

7. The airlaid composite absorbent web according to Claim 6 wherein the thermoplastic fibers are bicomponent fibers.

8. The airlaid composite absorbent web according to Claim 6 wherein the thermoplastic fibers are PE/PET staple fibers.

9. The airlaid composite absorbent web according to Claim 3 wherein the binder comprises meltblown fibers.

10. The airlaid composite absorbent web according to Claim 1 wherein the binder comprises elastomeric fibers.

11. The airlaid composite absorbent web according to Claim 10 wherein the elastomeric fibers comprise a polymer selected from the group including styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene/propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

12. The airlaid composite absorbent web according to Claim 1 wherein the absorbent composite web is between about 50 gsm and about 1500 gsm basis weight.

13. The airlaid composite absorbent web according to Claim 1 wherein the absorbent composite web comprises greater than or equal to about 2 weight percent thermoplastic binder fiber and less than or equal to about ninety eight weight percent particles of coated superabsorbent.

14. The airlaid composite absorbent web according to Claim 13 further comprising between about 30 weight percent and about 85 weight percent coated superabsorbent material.

15. The airlaid composite absorbent web according to Claim 1 further comprising at least one of non-coated superabsorbent materials, pulp fibers, synthetic fibers, odor control agents, and other natural or synthetic materials.

16. The airlaid composite absorbent web according to Claim 1 wherein the absorbent composite web has an absorbent capacity of between about 15 g/g and about 40 g/g.

17. The airlaid composite absorbent web according to Claim 1 wherein the composite absorbent web has a density of between about 0.1 g/cc and about 0.5 g/cc.

18. An airlaid composite absorbent web comprising a homogenous mixture of binder and particles of cellulose-coated superabsorbent.

19. The airlaid composite absorbent web according to Claim 18 wherein the particles of cellulose-coated superabsorbent material comprise from about 30% to about 97% superabsorbent material and from about 70% to about 3% cellulose fiber.

20. The airlaid composite absorbent web according to Claim 18 wherein the binder comprises less than about 40 weight percent of the web.

21. The airlaid composite absorbent web according to Claim 18 wherein the binder comprises less than about 20 weight percent of the web.

22. The airlaid composite absorbent web according to Claim 18 wherein the binder comprises less than about 10 weight percent of the web.

23. The airlaid composite absorbent web according to Claim 20 wherein the binder comprises thermoplastic fibers.

24. The airlaid composite absorbent web according to Claim 23 wherein the thermoplastic fibers are bicomponent fibers.

25. The airlaid composite absorbent web according to Claim 23 wherein the thermoplastic fibers are PE/PET staple fibers.

26. The airlaid composite absorbent web according to Claim 20 wherein the binder comprises meltblown fibers.

27. The airlaid composite absorbent web according to Claim 18 wherein the binder comprises elastomeric fibers.

28. The airlaid composite absorbent web according to Claim 27 wherein the elastomeric fibers comprise a polymer selected from the group including styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene/-propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic

polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

29. The airlaid composite absorbent web according to Claim 18 wherein the absorbent composite web is between about 50 gsm and about 1500 gsm basis weight.

30. The airlaid composite absorbent web according to Claim 18 wherein the absorbent composite web comprises greater than or equal to about 2 weight percent thermoplastic binder fiber and less than or equal to about ninety eight weight percent particles of coated superabsorbent.

31. The airlaid composite absorbent web according to Claim 30 further comprising between about 30 weight percent and about 85 weight percent coated superabsorbent material.

32. The airlaid composite absorbent web according to Claim 18 further comprising at least one of non-coated superabsorbent materials, pulp fibers, synthetic fibers, odor control agents, and other natural or synthetic materials.

33. The airlaid composite absorbent web according to Claim 18 wherein the absorbent composite web has an absorbent capacity of between about 15 g/g and about 40 g/g.

34. The airlaid composite absorbent web according to Claim 18 wherein the composite absorbent web has a density of between about 0.1 g/cc and about 0.5 g/cc.

35. An airlaid composite absorbent web consisting essentially of a homogenous mixture of binder and particles of coated superabsorbent.

36. The airlaid composite absorbent web according to Claim 35 wherein the particles of coated superabsorbent material comprise from about 30% to about 97% superabsorbent material and from about 70% to about 3% cellulose fiber.

37. The airlaid composite absorbent web according to Claim 35 wherein the binder comprises less than about 40 weight percent of the web.

38. The airlaid composite absorbent web according to Claim 35 wherein the binder material comprises less than about 20 weight percent of the web.

39. The airlaid composite absorbent web according to Claim 35 wherein the binder comprises less than about 10 weight percent of the web.

40. The airlaid composite absorbent web according to Claim 37 wherein the binder comprises thermoplastic fibers.

41. The airlaid composite absorbent web according to Claim 40 wherein the thermoplastic fibers are bicomponent fibers.

42. The airlaid composite absorbent web according to Claim 40 wherein the thermoplastic fibers are PE/PET staple fibers.

43. The airlaid composite absorbent web according to Claim 37 wherein the binder comprises meltblown fibers.

44. The airlaid composite absorbent web according to Claim 35 wherein the binder comprises elastomeric fibers.

45. The airlaid composite absorbent web according to Claim 44 wherein the elastomeric fibers comprise a polymer selected from the group including styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block



copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene/-propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

46. The airlaid composite absorbent web according to Claim 35 wherein the absorbent composite web is between about 50 gsm and about 1500 gsm basis weight.

47. The airlaid composite absorbent web according to Claim 35 wherein the absorbent composite web comprises greater than or equal to about 2 weight percent thermoplastic binder fiber and less than or equal to about ninety eight weight percent particles of cellulose-coated superabsorbent.

48. The airlaid composite absorbent web according to Claim 35 further comprising between about 30 weight percent and about 85 weight percent cellulose-coated superabsorbent material.

49. The airlaid composite absorbent web according to Claim 35 further comprising at least one of non-coated superabsorbent materials, pulp fibers, synthetic fibers, odor control agents, and other natural or synthetic materials.

50. The airlaid composite absorbent web according to Claim 35 wherein the absorbent composite web has an absorbent capacity of between about 15 g/g and about 40 g/g.

51. The airlaid composite absorbent web according to Claim 35 wherein the composite absorbent web has a density of between about 0.1 g/cc and about 0.5 g/cc.

52. An airlaid composite absorbent web consisting essentially of a homogenous mixture of binder and particles of cellulose-coated superabsorbent.

53. The airlaid composite absorbent web according to Claim 52 wherein the particles of cellulose-coated superabsorbent material comprise from about 30% to about 97% superabsorbent material and from about 70% to about 3% cellulose fiber.

54. The airlaid composite absorbent web according to Claim 52 wherein the binder comprises less than about 40 weight percent of the web.

55. The airlaid composite absorbent web according to Claim 52 wherein the binder comprises less than about 20 weight percent of the web.

56. The airlaid composite absorbent web according to Claim 52 wherein the binder comprises less than about 10 weight percent of the web.

57. The airlaid composite absorbent web according to Claim 54 wherein the binder comprises thermoplastic fibers.

58. The airlaid composite absorbent web according to Claim 57 wherein the thermoplastic fibers are bicomponent fibers.

59. The airlaid composite absorbent web according to Claim 57 wherein the thermoplastic fibers are PE/PET staple fibers.

60. The airlaid composite absorbent web according to Claim 54 wherein the binder comprises meltblown fibers.

61. The airlaid composite absorbent web according to Claim 52 wherein the binder comprises elastomeric fibers.

62. The airlaid composite absorbent web according to Claim 61 wherein the elastomeric fibers comprise a polymer selected from the group including styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, styrene-ethylene/butylene-styrene block copolymers, styrene-ethylene-propylene-styrene block copolymers, polyurethanes, elastomeric polyamides, elastomeric polyesters, elastomeric polyolefin homopolymers and copolymers, atactic polypropylenes, ethylene vinyl acetate copolymers, single-site or metallocene catalyzed polyolefins having a density less than about 0.89 grams/cc, and combinations thereof.

63. The airlaid composite absorbent web according to Claim 52 wherein the absorbent composite web is between about 50 gsm and about 1500 gsm basis weight.

64. The airlaid composite absorbent web according to Claim 52 wherein the absorbent composite web comprises greater than or equal to about 2 weight percent thermoplastic binder fiber and less than or equal to about ninety eight weight percent particles of cellulose-coated superabsorbent.

65. The airlaid composite absorbent web according to Claim 64 further comprising between about 30 weight percent and about 85 weight percent cellulose-coated superabsorbent material.

66. The airlaid composite absorbent web according to Claim 52 further comprising at least one of non-coated superabsorbent materials, pulp fibers, synthetic fibers, odor control agents, and other natural or synthetic materials.

67. The airlaid composite absorbent web according to Claim 52 wherein the absorbent composite web has an absorbent capacity of between about 15 g/g and about 40 g/g.

68. The airlaid composite absorbent web according to Claim 52 wherein the composite absorbent web has a density of between about 0.1 g/cc and about 0.5 g/cc.

69. The airlaid composite absorbent web according to Claim 1 wherein the absorbent composite web further comprises a support member.

70. The airlaid composite absorbent web according to Claim 69 wherein the support member comprises at least one of a spunbond web, a meltblown web, a nonwoven web, a tissue web or a pulp web.

71. The airlaid composite absorbent web according to Claim 18 wherein the absorbent composite web further comprises a support member.

72. The airlaid composite absorbent web according to Claim 71 wherein the support member comprises at least one of a spunbond web, a meltblown web, a nonwoven web, a tissue web or a pulp web.

73. The airlaid composite absorbent web according to Claim 35 wherein the absorbent composite web further comprises a support member.

74. The airlaid composite absorbent web according to Claim 73 wherein the support member comprises at least one of a spunbond web, a meltblown web, a nonwoven web, a tissue web or a pulp web.

75. The airlaid composite absorbent web according to Claim 52 wherein the absorbent composite web further comprises a support member.

76. The airlaid composite absorbent web according to Claim 75 wherein the support member comprises at least one of a spunbond web, a meltblown web, a nonwoven web, a tissue web or a pulp web.